
VICTORIAN ENTOMOLOGIST

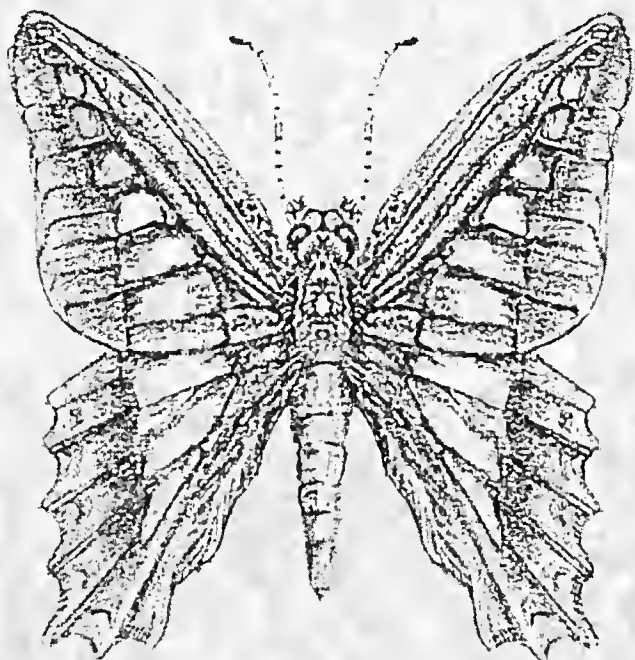


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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
- (c) to compile a comprehensive list of all Victorian insect species,
- (d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at La Trobe University, 2nd Floor, Room 2.29, 215 Franklin Street, Melbourne (Opposite the Queen Victoria Market) Melway reference Map 2F B1 at 8 p.m. on the third Friday of even months, with the possible exception of the December meeting which may be held earlier. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	\$20.00 (overseas members \$22)
Country Member	\$16.00 (Over 100 km from GPO Melbourne)
Student Member	\$12.00
Associate Member	\$ 5.00 (No News Bulletin)

Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

Cover design by Alan Hyman.

Cover illustration of the Blue Triangle butterfly, *Graphium sarpedon* L. by Rhonda Milten.

MINUTES OF THE GENERAL MEETING, 17 AUGUST, 2001

Meeting opened 8.15 pm.

Present: I. Endersby, D. Stewart, R. MacPherson, C. Peterson, A. Kellehear, J. Tinetti, P. Carwardine, R. McMahon, D. Dobrosak, C. Dobrosak, L. Garnett, M. Hurley, M. Endersby, A. Glaister.

Apologies: G. Weeks, Kirin Yee.

Minutes: Minutes of the general meeting 15/6/01 were accepted. M: R. MacPherson
S: D. Stewart.

Treasurer's Report:

- Account balances are: General account \$6299: Le Souëf account \$3580.
- At this time 17 members are unfinancial. Reminders have been forwarded to these members.

Editor's Report:

- Some articles are in hand for the next issue but another article would be welcome.

Correspondence:

- Request from B Haywood for back issues of the Newsletter will be followed up by the Editor.
- A letter from the Science talent Search acknowledged the Society's donation. The presentation of entries will be held at La Trobe University on October 22nd. I Endersby will attend if possible.
- Request for identification of specimen presented at last Council meeting is being followed up.
- New members were welcomed to the meeting.

Speaker:

Alena Glaister from Monash University gave a presentation on Aquatic insects. Alena discussed the environmental conditions favourable to aquatic species and introduced a range of groups of aquatic insects to show the diversity of species and conditions that exist. The presentation stimulated many questions from the audience. It may be possible to organise an excursion with Alena early in 2002.

The President thanked Alena for her presentation.

General Business

1. Membership applications from B & T Haywood were confirmed.
2. Notice of membership applications from M. Hurley and R. Weppler were given. These will be put forward for confirmation at the next meeting.
3. C. Dobrosak showed his collection of beetles, most of which were collected in the Hoppers Crossing area.

Meeting closed 9.35pm.



MINUTES OF THE COUNCIL MEETING, 20th SEPTEMBER, 2001

Meeting opened 8.15 pm

Present: D. Dobrosak, I. Endersby, A. Kellehear, J. Tinetti, D. Stewart.

Apologies: K. Walker, P. Carwardine.

Minutes: Minutes of the last Council meeting were accepted M: I. Endersby, S: D. Stewart.

Treasurer's Report:

- Account balances are: General account \$5885: Le Souëf account \$3580.
- A Members of Council will follow up late subscribers.

Editor's Report:

Sufficient articles for next issue are in hand but more articles are needed for future editions.

Correspondence:

- The Field Naturalists Club of Victoria, has informed us that I. Endersby, our nominee for the 2001 Australian Natural History Medallion, was not successful. Ian's nomination runs for another year and an update of his activities will be provided as requested.
- Export Import Consortium, a company in India, has contacted the Society claiming to provide competitive prices for a range of laboratory supplies. Inquiries may be directed to their email address: eximcon@mail.com.

General Business:

1. Talks are underway with a view to negotiating accommodation at the Melbourne Museum for the Society.
2. The secretary will purchase a new membership book as the existing one, which contains records of attendance for 30 years, is almost full.
3. Our Society is affiliated to the Australian Entomological Society, which has its General Conference and Annual General Meeting in September. This affiliation allows us to contribute to the AEU newsletter. A couple of suggestions of other possible benefits for affiliates were made. These included an Affiliates Page.
4. Next years program of speakers and activities will be finalised at the November meeting. Council welcomes members' ideas on what they would like to hear about in talks. Please give your suggestions to the Secretary.
5. Identification of a sample sent in by a member is in progress. The editor will contact the sender when results are known.

Meeting closed 9.57 pm.

Some New Butterfly Observations for the Far North and Pastoral Regions of South Australia

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Introduction

The Far North and other pastoral regions of South Australia have been poorly surveyed for butterflies in the historical past. However, over the past year, several trips of short duration have been undertaken into these regions by the authors and other naturalists interested in butterflies.

The authors recently undertook a trip to the Kimberley Region during mid winter June-July 2000 (Grund & Hunt 2001), using the Stuart Highway route through the Far Northwest Region of South Australia. The return route included a side trip to the east end of the Musgrave Ranges and a further deviation via Coober Pedy to Lake Eyre and the artesian Mound Springs along its west side. This was followed by a trip in early October of the same year to the Far Northwest Region along the Stuart Highway, and a return route through the Gawler Ranges in northern Eyre Peninsula. A further trip was undertaken in late April of year 2001 to the same Far Northwest Region along the Stuart Highway, returning along the west side of Lake Eyre by way of Oodnadatta. Most of the information in this report relates to the authors' trips to the Far Northwest of South Australia, but references are also made to other short surveys by the authors, and to trips by Dr Peter Hudson to the Far Northeast of the state, who was undertaking research programs for the Adelaide University between April 2000 and April 2001.

A number of butterflies recorded from the Alice Springs area (MacDonnell Ranges) in the past, have not been noted from the nearby areas of Far North South Australia. Although there is no exact counterpart of the MacDonnell Ranges in northern South Australia, there are however, some similarities between these ranges and the Everard-Musgrave Ranges. The Fink River has its headwaters in the former ranges, allowing a potential communication of butterfly fauna along its floodplains between the MacDonnell Ranges and northern South Australia. In the Far Northeast areas of South Australia, the Cooper and Diamantina-Warburton Rivers permit a communication of tropical butterfly fauna along their floodplains from inland Queensland to the northern sub-tropical latitudes of South Australia during periods of good rainfall. In either situation, whether the fauna remains in the arid north of South Australia is likely to be dependent on the ongoing condition of the habitat.

Good monsoon rains were recorded in the northern inland areas of Australia during the 1999-2000 and 2000-2001 seasons. These rains extended to the Far North areas of South Australia. Water flowed in most of the ephemeral creeks in the Far Northwest of South Australia, and the Cooper and Diamantina-Warburton Rivers flowed into Lake Eyre during both monsoon seasons. The summer of 2000-2001 was extremely hot and dry for inland South Australia. The vegetation in the Far Northwest and the west side of Lake Eyre during the winter and spring trips of the authors during year 2000 was in good condition, particularly along the ephemeral creeks. The vegetation condition during the autumn trip was good in the Far Northwest due to preceding thunderstorms, but south of Oodnadatta the country was dry, and the grasses along the creeks had totally dried out, although minor early autumn showers had allowed some perennial legumes to sprout in the road runoff areas.

Some of the more notable butterfly observations are summarised as follows.

HESPERIIDAE

Cephrènes sp: These skippers were looked for on the palms growing in all the small towns and road-houses along the Stuart Highway north of Port Augusta and along the Oodnadatta-William Creek Road. No evidence for their existence was seen.

Croitana arenaria: During the winter 2000 trip, mostly mid instar with a few late instar larval stages, and old larva-pupa shelters were seen in the creek systems crossing the Stuart Highway north of Marla. This was the first time that evidence for this skipper had been seen in this area of South Australia. During the spring 2000 trip, newly emerged adults, early to late instar larvae, and old pupa shelters were seen in all the major creeks north of Coober Pedy. Adults and eggs were also seen in the Botenella Hills near Kimba on Eyre Peninsula (Moore 1988, Grund 1999) during the same trip. During the autumn 2001 trip, adults, eggs, and larvae of all instars (but mostly early) were again seen in some of the creeks north of Marla.

The early stages were sometimes locally common, but the adults at all times were extremely scarce. Larval foodplants in the Far Northwest were the perennial Windmill Grasses *Enteropogon acicularis* and *Enteropogon ramosus*. The former grass was very common in all the larger creek systems draining into the western half of Lake Eyre. The latter foodplant was very local, and was most common roadside near Indulkana. The adult skippers were usually seen along or near the creek systems, mostly feeding at low flowers, but some males were occasionally also seen settled on the creek sand, and one was hill topping on a low hill a few kilometres from the nearest creek line. There was a high incidence of larva parasitization, with many shelters seen in which the final instar larvae had been overtaken by a single parasitoid wasp.

We were unable to find evidence for the skipper occurring between the Stuart Highway and Lake Eyre. We checked the Alberga River about half way along the Marla-Oodnadatta Road, and most of the creeks and rivers crossing the Oodnadatta-Marree Road. The Windmill Grass was common in all these creek systems. During the 2000 winter trip the grass on the west side of Lake Eyre was green and succulent. However, during the autumn 2001 trip the same grass had totally dried off. We also did not see the skipper in the Gawler Ranges, although it was only a cursory look.

The life history of this skipper has previously been described by Atkins and Miller (1987) from early stages found on *Enteropogon acicularis* in the Alice Springs area. Both Far Northwest and northeast Eyre Peninsula populations have been reared in Adelaide by the authors from eggs and larvae. Only one Far Northwest adult was obtained from the larvae collected in winter, and it emerged in mid November 2000. None of the larvae obtained from the Far Northwest during the spring trip reached adult stage. Eggs obtained from the Far Northwest in late April 2001 had reached fourth and fifth instar larval stages by the end of June. One group of eggs obtained from the Botenella Hills in early October 2000, and reared under very favourable conditions, developed to adult stage within three months. This fast development is believed to be an artefact, although it does demonstrate that under favourable conditions the skipper can mature very quickly. These adults emerged in early January after a pupal period of 11-18 days.

Another group of eggs from the Botenella Hills which were reared on potted foodplant kept outside in the elements, developed slowly and reached a late instar larval stage by mid summer. The larvae then went into diapause without further eating, presumably due to the grass starting to dry off. Dormancy was not broken until late autumn as the autumn rains began. None of these larvae had pupated by late July. Some of the larvae collected from the Far Northwest during the spring trip

also entered a diapause stage when kept outside under similar conditions to the Botenella Hills larvae. However, these diapausing larvae eventually died or disappeared off the foodplant.

We suspect the larvae from both populations are capable of entering a diapause period (similar to *Herimosa albovenata*). This would enable the larvae to survive the temporary drying out of the foodplant. In the northeast Eyre Peninsula region this would occur during the hot, dry summers, while in the Far Northwest it would occur during the irregular dry spells that befall that area.

In the Far Northwest, we believe the skipper has a base territory in the MacDonnell and Everard-Musgrave Ranges where the foodplant can remain in a green condition due to the summer monsoon and thunderstorm rains that occur in those regions. The fact that the larvae of the skipper can be found at all stages of development (also found by Atkins and Miller 1987), might suggest they are able to take advantage of any good rain and rapidly finish off late stage larval development and pupate so that the emergent adults can take advantage of any rejuvenated green growth of their foodplant and a blossoming of nectar plants. During good seasons, the adults probably either migrate out of the creek lines (and eventually get lost), or move up and down the creek lines following the foodplant. Further southeast around Lake Eyre, where the rainfall is inconsistent and much less than that received farther northwest, the foodplant is likely to totally dry out during the extended hot, dry summer months and the skipper would probably be unable to establish for any length of time, even with larval diapause.

There were no major differences in the early stages between the two populations, except that the mature larvae from the Botenella Hills tended to be a greenish brown colour whereas the Far Northwest population of mature larvae were usually pale yellowish brown. Diapausing green coloured larvae lost their green colour, which returned upon eating. Many of the diapausing larvae from both populations also acquired a characteristic pinkish-orange colour. Over the duration of the diapause period, there was a decrease in size of the larvae, with one final instar larva noted to decrease in length from 21 mm at the beginning of diapause, to 14 mm at the end of diapause after 10 weeks. Larvae from both populations usually ate at dusk.

The population in northeast Eyre Peninsula is believed to be a distinct relic-population that has developed from a much broader distribution of the skipper during a more favourable time. Due to the absence of *Enteropogon* in the area, its larvae eat *Austrostipa platychaeta* (Grund 1999), but in captivity the larvae will transfer readily to the former, and actually prefer it. Whether the two populations had more extensive ranges before rabbits and the grazing industry destroyed the habitat can only be surmised, although our experience would suggest that *Enteropogon* grass is not particularly palatable to grazing stock unless an overgrazing situation exists.

***Herimosa albovenata albovenata*:** This skipper was first recorded from Eyre Peninsula by Mike Moore (Grund 1999) from the Botenella Hills in early October of 1990. Subsequent attempts to year 2000 by both Moore and the authors to find further specimens during late September through early October were unsuccessful. During the above 2000 spring trip of the authors into the Gawler Ranges, broad-acres of its larval foodplant grass (*Austrostipa eremophila* and *A. scabra*) were observed along the plains to the south side of the Gawler Ranges and into the northern areas of Buckleboo and Kimba. The foodplant at the time was in excellent condition, and considerable effort was spent investigating these grasslands for the presence of the skipper, but neither adults nor early stages could be found. However, immediately prior to the authors' trip, M. Moore (pers. comm.) had undertaken a trip to the western part of northern Eyre Peninsula in early September and found flying adults on the *Austrostipa* plains at Lake Newland and Nundroo. It would now seem evident that this skipper flies much earlier on Eyre Peninsula (early September) than elsewhere in South Australia (late September to early October), and the reason for the poor success

in finding the skipper on Eyre Peninsula may be due to this earlier flight pattern. It is very difficult to locate this skipper unless adults or eggs are present.

During the same year, the authors also had a brief look at the skipper's broad-acre grassland habitat on the west side of the River Murray between Waikerie and Murray Bridge in late September, and also at Tintinara in mid October. Adults and eggs were present in the south part of the survey near Murray Bridge, but further north at Blanchetown and Waikerie, only eggs were seen. At Waikerie there were also swarms of locust nymphs, and it is likely the Locust Board subsequently sprayed these areas. In fact, it is highly probable this skipper was decimated in its range further north by the locust spraying activity. There was again (Grund 1996a) no evidence for the skipper at Tintinara.

***Hesperilla* sp:** We made an attempt to examine the more southerly *Gahnia trifida* bearing artesian Mound Springs along the west and south side of Lake Eyre during the winter and autumn Far Northwest trips. We could not reach the extensive Francis Swamp Mound Springs situated southwest of William Creek town. The *Gahnia trifida* was in poor condition at Strangways Springs, while at the Finnis Mound Springs complex the *Gahnia trifida* was in excellent condition. At the latter springs we were therefore surprised to find no evidence of *Hesperilla* skippers. However, from historic reports it is known that all the springs were severely abused by the early pastoralists. If the skippers of the genus *Hesperilla* were ever present, then it is likely they were removed very early during European habitation.

Motasingha trimaculata trimaculata: Adults were observed hill topping at the west end of the Gawler Ranges near Scrubby Peak.

Taractrocera anisomorpha: This skipper was flying during the spring trip to the Far Northwest. It was the first time this skipper had been observed in South Australia. Both male and female adults were encountered in new condition along the Indulkana Creek. A single mature larva of probably this species was found on *Enteropogon acicularis* in the Alberga River near the Stuart Highway during the autumn trip. It was taken back to Adelaide for rearing but died during pupation. Some eggs obtained during the spring trip were successfully reared to adults in Adelaide on common Paspalum, *Enteropogon acicularis* and Kikuyu, where they rapidly reached adult maturity in three months. The adults emerged in late December and early January after a pupal period of 11-12 days. The sister species *Taractrocera ina*, known from Alice Springs, was not encountered.

Taractrocaera papyria papyria: This skipper was collected during the winter trip as a larva from Couch Grass growing roadside in Port Augusta, and was reared to the adult stage, emerging in late August. It is a notable record, as the skipper does not normally occur in hot, semi-arid areas.

PAPILIONIDAE

Papilio demoleus sthenelus: The Cullen (*Psoralea*) larval foodplant of this swallowtail was often seen growing over broad-acres during the winter and spring trips to the Far Northwest, but the same foodplant was very rarely seen in green growth during the autumn trip. Wherever its foodplant occurred in growth the swallowtail was present, along with its early stages. Several mature larvae seen in the northern creeks were quite different from larvae previously observed on foodplant growing near Adelaide. These northern larvae were mostly green, without or with very few markings, in a form more typically seen in tropical Singapore. Several immature larvae were taken back to Adelaide and reared to final instar stage, and interestingly, these larvae developed into mature larvae with well-developed markings. This may suggest the markings are controlled by temperature, or perhaps the duration time of the larval stage.

PIERIDAE

During the authors' trips to the Far Northwest, *Eurema smilax* was the only *Eurema* yellow observed. One specimen of *Catopsilia pyranthe* was seen flying along the Eateringinna Creek (October). *Pieris rapae* was observed at Marla (October). Peter Hudson saw *Delias aganippe* near Ultoomurra Waterhole on the Warburton River (early April 2001).

Eurema hecabe: This butterfly was first reported from South Australia by L. Hunt (Braby 2000) during early September of 1999, on the North West Branch of the Cooper Creek, 85 km northwest of Innamineka. Subsequently, David Keane saw a further specimen at Finnis Mound Springs in late April of 2000 (along with *Delias aganippe*) (Keane 2001). Peter Hudson undertook trips to the Far Northeast of the state in April, August and December of 2000, and April of 2001. He noted two specimens of the butterfly on the North West Branch of the Cooper Creek in December, but frequently saw it along the Diamantina-Warburton River (Kuncherinna Waterhole, near Pandie Pandie, Ultoomurra Waterhole) and also at Lake Toontoowaranie during April of 2001. The butterflies were usually observed flying around the annual *Sesbania cannabina* (Leguminosae), a probable larval foodplant, which had sprouted along the edges of the various waterways and wetlands.

NYMPHALIDAE

Danaus chrysippus petilia: This butterfly was often seen in the Far Northwest during the winter and spring trips, but was very scarce during the autumn trip.

Hypalimnas balina nerina: Peter Hudson observed this butterfly in the Far Northeast region during April 2001, near Appamurna Waterhole (Lake Etamunbanie) and again at Browne Creek (just north of Coongie Lake).

Junonia villida ealybe: Larvae of all sizes were found on Bluerod (*Stemodia florulenta* Serophulariaceae) in the Tareoonyinna Creek during the autumn trip to the Far Northwest. These larvae were successfully raised to adults in Adelaide on the same foodplant. The adults emerged during late May to early June, with a pupal period of 20 days in May, extending to 25 days in June.

Vauessa kershawi: This butterfly was observed to lay eggs on Billybuttons (*Caloecephalus platycephalus* Compositae) along the Tareoonyinna Creek during the spring trip to the Far Northwest.

LYCAENIDAE

Caudalides heathi heathi: This blue, although uncommon, was seen near creeks north of Marla, and again near Todmorden. In these areas its early stages were utilising Bluerod (*Stemodia florulenta*) as a foodplant. Small black *Iridomyrmex* ants were usually present, although in one area of foodplant harbouring eggs of this butterfly the plants were covered by the large black *Iridomyrmex viridiaeneus*.

Fanegaua alsulus alsulus: One newly emerged adult male was collected in the Eateringinna Creek during the spring trip to the Far Northwest. This was the first time this butterfly had been recorded in South Australia. Early stages were not observed, but the potential larval foodplant *Indigofera psammophila* (Leguminosae) was present in the creek.

Jalmenus icilius: This blue was commonly encountered north of Coober Pedy and also on the Alberga River near Todmorden. It usually occurred either roadside feeding from flowers, or adjacent to the creek channels in breeding colonies. Larvae were seen to utilise *Senna artemisioides petiolaris* as a foodplant along the Pootnoura Creek, and *Senna artemisioides filifolia* along the Indulkana Creek. At the latter site there was a very large and prolific colony of the butterfly, being attended by its usual small black *Iridomyrmex* ants. At the same site there was also much flying activity of the butterfly about adjacent Mulga (*Acacia aneura*) but even after considerable looking we could not find any larval activity on the Mulga.

Lampides boeticus: This blue was common in the Far Northwest, where its larvae were utilising *Crotalaria eremaea strehlowii* (Leguminosae) as a foodplant. This low growing, yellow flowering plant was common along the creek channels, and occasionally roadside. In the early morning, males were often seen to slowly flutter beneath this foodplant near ground level searching for newly emerged females with which to mate. Observed ants sometimes attended larvae, either small black *Iridomyrmex* or large black *Iridomyrmex viridiaeneus*, or both. They were also harmlessly associated with the large black ants *Camponotus capito* in the Indulkana Creek, although these ants did not seem to be paying much attention to the larvae. Some eggs and larvae were reared in Adelaide, and interestingly, without heat, the adults emerged during late autumn and early winter after a pupal period of 10-21 days in May, extending to 29 days in June, with the June formed females having a broad, intense purplish-blue colouration.

Nacaduba biocellata biocellata: During the autumn 2001 trip the authors were fortunate to witness a mass emergence of this butterfly in some areas of the Far Northwest, where there had been earlier thunder-storm activity in the weeks preceding the trip. During the mornings, hundreds of males were seen to flutter slowly about beneath the Mulga foodplant trees, less than 10 cm from the ground, searching for newly emerged females with which to mate. The flight occurred within the drip line of the trees, and usually close to the trunks. The Mulga was not in bud and appeared to have recently finished flowering. Most of the flight activity occurred beneath trees closer to the creek beds. Overall there must have been many thousands of butterflies.

Neolucia agricola agricola: This butterfly was observed hill topping at the west end of the Gawler Ranges near Scrubby Peak.

Ogyris amaryllis meridionalis: This butterfly was generally common throughout the Far Northwest, and was seen flying during all the trips. Most of the populations were using *Anyema maidenii maidenii* (parasitizing Mulga) as a larval foodplant, and actually preferred to use it in preference to *Anyema preissi* that was also locally present. Interestingly, some eggs of this butterfly were also observed on the foliage of a wire-leaved form of *Lysiana murrayi* on a Mulga that was also bearing *A. maidenii*. The larvae could not be found and so it is not known if the larvae can survive on this mistletoe. All the adults seen, both in the eastern Musgrave Ranges and along the Far Northwest roads were typical of subspecies *meridionalis*.

Ogyris barnardi delphis, *Ogyris oroetes apiculata* and *Ogyris zosine*: These butterflies were not encountered in the Far Northwest areas along the routes taken. The preferred larval foodplant of the latter two butterflies, *Anyema miquelii*, was not seen in these northern areas. However, *O. barnardi* along with *O. oroetes* were seen on the northwest side of the Gawler Ranges at Lake Everard Homestead, where the latter butterfly was associated with *Anyema miquelii*. Observed eggs of *O. oroetes* were noted to be heavily parasitized. Around Oodnadatta and further south along the road to William Creek, *Anyema quandang*, the preferred foodplant of *O. barnardi delphis* was observed during the autumn 2001 trip, parasitizing the host *Acacia cambagei* (similar to Myall), which occurred commonly along small creek lines in this area. We checked several sites

but could not find flying adults of *O. barnardi*. We did not check for early stages. However, *O. amaryllis* was observed flying about the mistletoe.

***Theclines thes albocincta*:** No foodplant for this blue was observed in the Far Northwest. Known groves (Grund 1996b) of its *Adriana* foodplant in the Gawler Ranges were located, and colonies of the butterfly found. During the spring 2000 trip the butterfly and its early stages were extremely scarce. However, Hunt returned in early December and the butterfly was then very common. The *Adriana* in the western part of the ranges is *A. tomentosa* var. *hookeri*. In the central part the *Adriana* is an unusual hybrid population of *A. quadripartita* var. *quadripartita*, *A. q.* var. *klotzschii*, and *A. t.* var. *hookeri*. The adult butterflies are typical of the inland or northern form of the butterfly (adult Form 4 of Sibatani & Grund 1978), in which the wing uppersides are devoid of blue colouration. However, a few individuals have some grey scaling, which is also sometimes seen in the northwest Victoria populations of this form of the butterfly. It is now apparent the blue winged form of *T. albocincta* found in South Australia is restricted to coastal South Australia and to the use of *Adriana quadripartita* var. *klotzschii* as a larval foodplant. It is also apparent these two forms of the butterfly represent distinct subspecies (perhaps even species) within the *T. albocincta* complex, which is the subject of another paper submitted for publication.

***Theclines thes miskini miskini*:** A sporadic butterfly during our trips. It was commonly seen dune topping in the Musgrave Ranges in early July, where it was the dark winter form. The odd butterfly (summer form) was seen during the autumn 2001 trip at several creek crossings on the Stuart Highway north of Marla, and again roadside flying around flowering *Acacia* on the Marla to Oodnadatta road.

***Theclines thes serpentata serpentata*:** Contrary to the distribution of this butterfly shown by Braby 2000, we saw this butterfly wherever its saltbush foodplant occurred and it was extremely abundant during the autumn 2001 trip. A new foodplant recorded during the trips was *Chenopodium curvispicatum* (Chenopodiaceae). Observed eggs of the butterfly were very heavily parasitized.

***Zizina labradus labradus*:** Early stages of this butterfly were found to accompany *Lampides boeticus* on the *Crotalaria eremaea strehlowii*, sometimes associated with the same ant fauna. In these cases the *L. boeticus* larvae ate the flowers (early instar larvae) and the contents of the young seed pods (late instars), while the *Z. labradus* larvae ate the leaves. The latter larvae were readily discernible by the presence of scoured eat marks and sometimes by the attendance of ants. *Z. labradus* early stages were also seen on *Lotus cruentus* (Leguminosae) sometimes accompanied by the odd small black *Iridomyrmex* ant. The larvae were mostly green forms. During the early mornings, males were often seen to slowly flutter beneath the foodplants near ground level (like the *Nacaduba biocellata*, but fewer), searching for newly emerged females with which to mate. Some eggs and larvae were reared in Adelaide, the adults emerging during late autumn and early winter after a pupal period of 16-17 days in May, extending to 29 days in June. The pupae were polymorphic.

Acknowledgments

The foodplants were identified with the assistance of the staff at the State Herbarium of South Australia (Helen Vonow, David Symon and Martin O'Leary). Archie McArthur of the South Australian Museum identified the ants.

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Insects in Geelong and Environs

Allan Kellehear, PhD

This year I present to the membership a mystery excursion into my randomly collected images of insects in Geelong and its surrounding areas. The slides that I show tonight were taken at my Geelong West residence but also at Cape Otway National Park and Ocean Grove Nature Reserve. For the most part these insects are bugs, beetles, plant hoppers and some butterflies and moths. There is also a goodly collection of damselflies and dragonflies. I have identified some specimens but many others will require the more expert eye of the audience. In this way, tonight's address will be less a monologue and much more a discursive and participatory affair.

The slides from Geelong and Cape Otway were taken in January 2001 whilst those from Ocean Grove Nature Reserve were taken in March 2001. All photos were taken employing a Nikon FE with 50mm lens [1:1.4] and a Nikon PK-11 (8) extension ring. Shots taken at Ocean Grove Nature Reserve used the same basic equipment but with a 105mm Nikkor telephoto lens with the same extension ring. Kodak film was used [200 asa].

Some background

Geelong West is only about 2km from Corio Bay and the centre of Geelong city itself. Geelong, an industrial city of about 150,000 people, is about 70km south-west of Melbourne. We have been experiencing considerable drought conditions for some years now. Indeed, Geelong's weather has been drier than Melbourne's and has been subject to mandatory water restrictions for the last three years. My garden is a combination of small grassed courtyard areas lined with mainly exotic trees and small shrubs. There is a generous series of box hedges, Bougainvillea, Wisteria and ivy vines, rose bushes, Hibiscus and Geraniums. There are also Japanese Maple, Magnolia, and deadly night shade bushes. I also have a small collection of cacti [about 30] that attracts their own insect life.

The location at Cape Otway to which I refer covers the Horden Vale Road area, particularly the end of that road as it enters the Glenaire Beach national park area. Cape Otway is off the Great Ocean Road between the township of Apollo Bay and the 12 Apostles rock formations. A famous light house stands at Cape Otway. This area is about 2 hours south-west of Geelong by car. Most of the area where photos were collected were characterised by pasture with heavy acacia growth on the roadside. But there were areas of natural bush too with local native gum tree and ferns.

Ocean Grove Nature Reserve is 25km south-east of Geelong city on the west side of Grubb Road in Ocean Grove, a suburb next to Barwon Heads – a locality recently made famous by the ABC-TV series "Sea Change". According to the free Parks Victoria brochure the reserve "... contains the only significant example of woodland on the Bellarine Peninsula as it was prior to European settlement" (see: "Park Notes" Parks Victoria, 1998).

The reserve is a 143 hectare site that, entomologically speaking, is best known for its Common Brown and Blue Ant Butterfly as well as its population of Nitridae Ants. The vegetation

is mainly Grass Tree, Manna Gum, Yellow Gum, Black Wattle, and Dropping Sheoak. There are 22 species of orchid and significant sites of Kangaroo Grass. Set among the usual and interesting natural ecology are two pools of water; one which looks like it might be a natural shallow lake of some kind, perhaps fed by a seasonal creek; and the other lying next to the first, a dam which is most certainly man-made. Both pool sites were host to a rich diversity of damsel and dragonflies.

The photographic specimens

I commence tonight's exhibition with dragonflies and damselflies. I will then show some butterflies and moths; some bugs and beetles; and finally, some miscellaneous specimens such as katydid, flies, bees and mantis. I will end with some reproductive exhibits - some exuvia, caterpillar and cocoon.

Dragonflies & Damselflies

1. Brown Damselfly (<i>Austrolestes</i> sp?)	Geelong West	Jan 2001
2. Tiger-Striped Damselfly (?)	Cape Otway	Jan 2001
3. Grey Damselfly (?)	Cape Otway	Jan 2001
4. Brown Damselfly (<i>Austrolestes</i> ?)	Geelong West	Jan 2001
5. second view of [4]		
6. Another view of [4]		
7. And again of [4]		
8. Blue Damselfly (perhaps 'The Blue Darning Needle' / <i>Coenagrion lyelli</i>)	Ocean Grove	March 2001
9. Red Dragonfly (<i>Diplacodes</i> sp?)	Ocean Grove	March 2001
10. second view of [7]		
11. third view of [7]		
12. Blue-Bottomed Damselfly (<i>Ischnura aurora</i>)	Geelong West	March 2001
13. second view of [10]		
14. Dragonfly on Wattle (<i>Hemicordulia tau</i>)	Ocean Grove	March 2001
15. second view of [12]		
16. Silver Damselfly (?)	Geelong West	Feb 2001
17. Dragonfly on Rose (<i>Aeshna brevistyla</i>)	Geelong West	Feb 2001
18. second view of [15]		
19. third view of [15]		

Butterflies & Moths

20. Pair of Cabbage Whites	Geelong West	Jan 2001
21. second view of [18]		
22. Brown Moth (Geometrid moth)	Geelong West	Jan 2001
23. Common Grass Blue Butterfly (possibly <i>Zizina labradus</i>)	Cape Otway	Jan 2001
24. Wood Moth (Nocturid?)	Ocean Grove	March 2001
25. second view of [22]		
26. Bird-Pecked Butterfly (sword-grass butterfly/ <i>Tisiphone abeona abeona</i>)	Cape Otway	Jan 2001
27. Shouldered Brown (<i>Heteronympha Penelope Sterope</i>)	CapeOtway	Jan 2001
28. Brown Skipper (perhaps the symmomos skipper/ <i>Trapezites symmonus symmonus</i>)	Cape Otway	Jan 2001
29. Another Skipper (possibly <i>Dispar compacta</i>)		

Bugs & Beetles

30. Brown & Tan Bug (Shield bug)	Cape Otway	Jan 2001
31. Black & Orange Bug (Assassin Bug)	Cape Otway	Jan 2001
32. Black & Orange Bugs (Harlequin bugs)	Geelong West	Jan 2001
33. Orange and Black Beetle (Soldier beetle)	Cape Otway	Jan 2001
34. Black Beetle [dead] (?)	Cape Otway	Jan 2001
35. Brown Bug (Weevil)	Cape Otway	Jan 2001
36. Black Beetle [alive] (Tenebrionid?)	Cape Otway	Jan 2001
37. Grey Bug (Another Shield bug)	Cape Otway	Jan 2001
38. Black Beetle on Pine (?)	Ocean Grove	March 2001
39. Bottle-Nosed Beetle (Weevil – Belid - <i>Rhinotia suturalis</i>)	Ocean Grove	March 2001
40. Acacia Bug [dead] (Jewel bug)	Cape Otway	Jan 2001
41. second view of [42]		

42. Plant Hopper (<i>Siphanta acuta</i>)	Geelong West	Feb 2001
43. Passion Vine Hopper (perhaps <i>Scolypopa australis</i>)	Geelong West	March 2001

Miscellania

44. Mantis	Geelong West	Jan 2001
45. Second view of [46]		
46. Bee	Geelong West	Jan 2001
47. Katydid (perhaps <i>Caedicia simplex</i>)	Cape Otway	Jan 2001
48. Metallic Green Fly (perhaps <i>Austrosicipus</i> species, <i>connexus</i> ?)	Cape Otway	Jan 2001
49. Bush Fly	Cape Otway	Jan 2001
50. Wasp (Ichneuman Wasp?)	Geelong West	Jan 2001
51. second view of [50]		
52. Long-Bodied fly (Perhaps a wasp or fly)	Cape Otway	Jan 2001
53. Long Black fly (Robber fly)	Cape Otway	Jan 2001

Reproductive exhibits

54. Dragonfly exuvia [single]	Ocean Grove	March 2001
55. Dragonfly exuvia [multiple]	Ocean Grove	March 2001
56. Unidentified exuvia [poss. Dragonfly again]	Ocean Grove	March 2001
57. Caterpillar on <i>Acacia</i> (Lymantriidae?)	Ocean Grove	March 2001
58. Cocoon (poss. of Leaf Case moth)	Ocean Grove	March 2001

Conclusion

This was a cross-sectional slice of insect life over the short period of January to March 2001. And I was limited in my ability to photograph every insect available to me simply because my equipment dictated that I get extremely close to my subject. In this way, I have been particularly limited in my ability to photograph butterflies (though I have done surprisingly well in photographing equally elusive damselflies and dragonflies).

Notwithstanding the limitations of this casual survey of insects in the Geelong region it is quite apparent that many of the more common insects in this part of the world – SE Australia or Melbourne area – are to be found in the Geelong region too. Notable here are the katydids, plant hoppers, cabbage moth and so on. Other specimens may not be so common, and particularly around the Otways region, there is much more scope for finding and reporting unique fauna to this area.

Should I do this again, and I just might, I would sample different seasons and diversify my equipment. This is such an interesting exercise for any person wanting to get acquainted with his or her area that I heartily recommend it to all people with a simple interest in insect life, or indeed, the more serious amateur.*

* I acknowledge with gratitude, all the members who attended the meeting this night for their kind and good-humoured efforts towards identification of my photo-specimens. In particular, I extend my thanks to Ian Endersby, Danny Dobrosak, Peter Carwardine and Ray MacPherson. Obviously, none of the scientific labels are guaranteed accurate without the requisite physical examination. Attempts at identification were made in the spirit of collegial guesswork and may not be precise. Nevertheless, these labels lend themselves to a modest, if not detailed, basis for reflection, speculation and discussion of the insect life in this region of Victoria.

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[also, www.parks.vic.gov.au]

Excursion to Ocean Grove Nature Reserve

The society will be holding an excursion to Ocean Grove Nature Reserve from 10AM onwards on Sunday 25th November 2001. Meet at the Information area adjacent to the car park. The purpose of the excursion is to provide a preliminary report to Parks Victoria and the Department of Natural Resources and Environment on the Coleoptera, Lepidoptera, Aquatic insects and ants at the reserve. Collection of specimens will be limited to what can be identified by the respective members and 'experts' present on the day.

The society holds a current research permit under the *National Parks Act 1975*. Those members not wishing to take part in the survey are most welcome to arrive at noon for a lunch/social gathering.

Ocean Grove Nature Reserve is off Grubb Road Melways Key Map Page 15 (entrance just north of the reserve shown on Melways map 234). This reserve holds the only significant example of original woodland of the Bellarine Peninsula.

Contact Daniel Dobrosak on 03 9749 1476 or 0428 298 425 for further details.

Field Naturalists Club of Victoria Cranbourne Botanical Gardens Excursion

For the information of our members, our Councillor, Ian Endersby will be leading an excursion on behalf of the Field Naturalists Club of Victoria to the Cranbourne Botanical Gardens on Sunday 2 December at 3pm. The program commences with a walk followed by a BYO BBQ, slide show and short lecture.

Enter from Ballarto Road, Melway Map 133 K10. Meet at 3pm in the car park at Melway Map 133 K12.

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The Society welcomes contributions of articles, papers or notes pertaining to any aspect of entomology for publication in this Bulletin. Contributions are not restricted to members but are invited from all who have an interest. Material submitted should be responsible and original. The Editor reserves the right to have articles refereed. Statements and opinions expressed are the responsibility of the respective authors and do not necessarily reflect the policies of the Society.

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Contributions may be typed on A4 paper or *preferably* sent to the Hon. editor on an IBM formatted disk in *Microsoft Word for Windows*, *WordPerfect* or any recognised word processor software with an enclosed hard copy. Contributions may also be E-mailed to Internet address. dobrosak@mira.net

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DIARY OF COMING EVENTS

Friday 19 October General Meeting

Dr. Tim New of La Trobe University will present a talk on:
'Development of the national action plan for Australian butterflies'

Thursday 15 November Council Meeting

Friday 14 December General Meeting - Members Night

Members will give short talks and slide presentations.

Scientific names contained in this document are *not* intended for permanent scientific record, and are not published for the purposes of nomenclature within the meaning of the *International Code of Zoological Nomenclature*, Article 8(b). Contributions may be refereed, and authors alone are responsible for the views expressed.